

AMENDMENTS TO THE SPECIFICATION

Please amend at page 1, lines 10 – 17 (amended):

The present invention seeks to alleviate the above disadvantages.

SUMMARY OF THE INVENTION

The present invention accordingly provides a dough dispensing apparatus and system as claimed in the appended claims. In particular, the apparatus of the invention comprises a container for receiving and holding dough and a dough transfer device for receiving dough from said container and for transferring said dough to a depositing station at which the dough is deposited onto a conveying means ~~for further processing steps to be carried out on the dough~~, the dough transfer device having a conical-shaped bottom portion and including a scraper device which is fixedly attached to a holding member such that in use, when dough is contained in the dough transfer device, motion of the dough with respect to the scraper device prevents dough from adhering to ~~the inner side walls~~ an inner side wall of the dough transfer device, the scraper device being generally arcuate in profile thereby enabling the dough to be dispensed homogenously from ~~the conical~~ a bottom of the dough transfer device, as required when in use, while simultaneously not adding significantly to the mixing of the dough in the dough transfer device, which would otherwise lead to over-mixing of the dough.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a plan view of an area of the production line showing the depositing stations.

Figure 1a is an exploded plan view of a first depositing location.

Figure 1b is an exploded plan view of a second depositing location.

Figure 2 is a plan view of the area including the dough transfer device (conical hopper) and dough transfer device (conical hopper).

Figure 2a is an exploded plan view of the area including conical hopper and hopper-washing station.

Figure 2b is an exploded plan view of the area including the moveable bowl and conical hopper.

Figure 3 is a sectional elevation along the lines A-A of Figure 1.

Figure 3a is an exploded view of Figure 3.

Figure 4 is a sectional elevation along the lines B-B of Figure 1.

Figure 4a is an exploded view of the conical hopper shown in Figure 4.

Figure 5 is a sectional view along the lines C-C of Figure 1.

Figure 6 is a sectional elevation along the lines D-D of Figure 1.

Figure 6a is an exploded view of the conical hopper and associated components as shown in Figure 6. (Figure 6a shows a side view of depositing locations 4a and 4b of depositing station 4).

Figure 7 is a sectional elevation along the lines E-E of Figure 1.

Figure 7a is an exploded view of figure 7, (Figure 7a shows a side view of depositing locations 5a, 5b, 5c of depositing station 5).

Figure 8 is a front elevation of the scraper device included in the dough transfer device (conical hopper).

Figure 8a is a side elevation of the scraper device of Figure 8.

Figure 8b is a sectional view along the line A-A of Figure 8.

Figure 9 is an elevation of the cleaning station (clean-in place (CIP) station).

DETAILED DESCRIPTION

The present invention provides a dough dispensing apparatus and system as claimed in the appended claims. In particular, the apparatus of the invention comprises a container for receiving and holding dough and a dough transfer device for receiving dough from said container and for transferring said dough to a depositing station at which the dough is deposited onto a conveying means, the dough transfer device having a conical-shaped bottom portion and including a scraper device which is fixedly attached to a holding member such that in use, when dough is contained in the dough transfer device, motion of the dough with respect to the scraper device prevents dough from adhering to the inner side walls of the dough transfer device, the scraper device being generally arcuate in profile thereby enabling the dough to be dispensed homogenously from the conical bottom of the dough transfer device, as required when in use, while simultaneously not adding significantly to the mixing of the dough in the dough transfer device, which would otherwise lead to over-mixing of the dough.

At page 4, lines 12 – 16 (amended):

The present invention also provides a system for dispensing dough, the system comprising a container for receiving and holding dough, a dough transfer device for receiving dough from said container and for transferring said dough to a depositing station at which the dough is deposited onto a conveying means ~~for further processing steps to be carried out on the dough~~, the dough transfer device having a conical-shaped bottom portion and including a scraper device which is fixedly attached to a holding member such that in use, when dough is contained in the dough transfer device, motion of the dough with respect to the scraper device occurs to prevent dough from adhering to ~~the inner side walls~~ an inner side wall of the dough transfer device, the scraper device being generally arcuate in profile thereby enabling the dough to be dispensed homogenously from ~~the conical~~ a bottom of the dough transfer device, as required when in use, while simultaneously not adding significantly to the mixing of the dough in the dough transfer device, which would otherwise lead to over-mixing of the dough.

At page 7, line 11 through page 8, line 29:

The invention will now be described more particularly with reference to the drawings, in which are shown, by way of example only, one embodiment of the dough dispensing apparatus and system of the invention.

In the drawings:

Figure 1 is a plan view of an area of the production line showing the depositing stations;

Figure 1a is an exploded plan view of a first depositing location;

Figure 1b is an exploded plan view of a second depositing location;

Figure 2 is a plan view of the area including the dough transfer device (conical hopper) and dough transfer device (conical hopper);

Figure 2a is an exploded plan view of the area including conical hopper and hopper washing station;

Figure 2b is an exploded plan view of the area including the moveable bowl and conical hopper;

Figure 3 is a sectional elevation along the lines A-A of figure 1;

Figure 3a is an exploded view of figure 3;

Figure 4 is a sectional elevation along the lines B-B of figure 1;

Figure 4a is an exploded view of the conical hopper shown in figure 4;

Figure 5 is a sectional view along the lines C-C of figure 1;

Figure 6 is a sectional elevation along the lines D-D of figure 1;

Figure 6a is an exploded view of the conical hopper and associated components as shown in figure 6; (Figure 6a shows a side view of depositing locations 4a and 4b of depositing station 4);

Figure 7 is a sectional elevation along the lines E-E of figure 1;

Figure 7a is an exploded view of figure 7, (Figure 7a shows a side view of depositing locations 5a, 5b, 5c of depositing station 5) and

Figure 8 is a front elevation of the scraper device included in the dough transfer device (conical hopper);

Figure 8a is a side elevation of the scraper device of Figure 8;

Figure 8b is a sectional view along the line A-A of Figure 8;

Figure 9 is an elevation of the cleaning station (clean in place (CIP) station);

At page 8, line 31 – page 9, line 17:

The dough dispensing apparatus of the invention will now be described with reference to the drawings, in which are shown, by way of example only, one embodiment of the dough dispensing apparatus and system of the invention. Referring initially to Figure 1, the dough dispensing apparatus of the invention is indicated generally by reference numeral 100. The dough dispensing apparatus 100 includes two moveable bowls 1, 1', for containing dough. The dough mixing step is carried out in a mixing room 110 having a controlled environment in which the temperature is controlled at a constant temperature of approximately 20°C. The mixing room 110 includes two mixing stations; one each for mixing dough and supplying mixed dough for each of the bowls, 1, 1', respectively. Each mixing station has its own control panel (not shown). At each mixing station, an ingredient in the form of a powder is hydrated by adding water to the powder. After this hydration step in the dough preparation process, the mixture is then allowed to rest for a period of 6 to 10 minutes (generally about 8 minutes). Allowing the dough mixture to rest for this period of time at approximately 20°C, allows for further hydration to take place by the molecules of the water which was added to the powder. This process is unique and aids the dough development during the rest period due to the conditioning taking place at the controlled temperature. The mixed dough (or batter) is then loaded into the respective moveable bowls 1, 1' in the mixing room 110. The moveable bowls 1, 1' are moveable along a track on framework 14, from the controlled environment of the mixing room to a cooking room (frying room) 111 where subsequent process steps are carried out.

At page 9, lines 19 – 30:

The dough dispensing apparatus 100 also includes a dough transfer device for conveying the dough to depositing stations as discussed below. The dough transfer device in the illustrated embodiment comprises two respective conical hoppers 3, 3' which are located in the flying room 111. Each conical hopper 3, 3' is capable of receiving dough from its corresponding moveable bowl 1, 1' respectively. Included in each moveable bowl 1, 1' is a blade 101, 101' for agitating the dough held in each of the two bowls 1, 1'. The framework track for the conical hoppers 3, 3' is indicated on Figure 4a by reference numerals 306, 306' respectively. The dough dispensing apparatus 100 also includes two inclined elevators 2, 2' respectively, each inclined elevator 2, 2' being for transferring respective moveable bowls 1, 1' into an elevated position in which the moveable bowl 1, 1' is located above its corresponding conical hopper 3, 3' and in which position, dough can be transferred from the moveable bowl 1, 1' into its corresponding conical hopper 3, 3' respectively. Once the bowl 1, 1' has emptied its contents, the bowl is carried back down the elevator and returned to the mixing room for re-filling.

At page 13, lines 20 – 29:

Referring now to Figure 6a and Figure 7a each of the depositing hoppers 7a, 7b, 7c and 8a, 8b, 8c include a framework basis 704, 804 respectively on which the whole construction of the depositing hoppers 7a, 7b, 7c and 8a, 8b, 8c, respectively is mounted. Each depositing hopper 7a, 7b, 7c also includes a nozzle 703 through which the batter is dispensed onto conveyor 12 together with a ~~handle 701~~ handle to adjust the distance between the nozzle 703 and the conveyor 12. Each depositing hopper 8a, 8b, 8c also includes a nozzle 803 through which the batter is dispensed onto conveyor 12 together with a handle 801 to adjust the distance between the nozzle 803 and the conveyor 12. As can be seen on Figures 1a, 1b and Figures 6 and 7, there is also an electric drive 702 for driving the depositing hoppers 7a, 7b, 7c and an electric drive 802 for driving the depositing hoppers 8a, 8b, 8c.